

INFORMATION SHEET

ORDER NO. _____
BAKER COMMODITIES, INC.
HANFORD SKINNING AND HIDE CURING FACILITY
KINGS COUNTY

INTRODUCTION

Baker Commodities, Inc. (hereafter Discharger) owns and operates a dead cow and calf skinning and hide curing facility (Facility) at 7480 Hanford Armona Road, approximately 2 miles west of the City of Hanford. The Facility receives dead cows and calves from surrounding dairies. Cow and calf hides are separated from carcasses during skinning. Hides are sent to the Facility's curing room where salt is applied and carcasses are chopped up and loaded into trucks for transport to Baker Commodities' Kerman rendering plant.

The Discharger has discharged industrial wastes to land since at least 1964 when it acquired half ownership in the property and onsite business. The Discharger acquired the remaining portion of the business in 1972. In July 1996, after Regional Board staff found the Facility operating without WDRs, the Discharger submitted a Report of Waste Discharge (RWD). In September 2000, the Discharger submitted a revised RWD in support of an increase in discharge associated with a complete upgrade of the Facility (i.e., new buildings, equipment, etc.). Operations in the newly constructed Facility began in January 2002. In February 2003, the Discharger submitted a second revised RWD to construct three lined treatment lagoons.

To segregate the brine waste from hide skinning wastewater, the curing process is physically separated from the hide skinning room. Hide skinning wastewater is discharged to three unlined lagoons then used to supplement an irrigation supply. Brine waste is stored in a tank and periodically trucked to the Discharger's Los Angeles facility where it is discharged to the local sewer system connected to a publically owned treatment works with an ocean outfall.

ENFORCEMENT

The Discharger was not segregating waste brine until February 2001 and before then discharged it and hide skinning wastewater to three unlined lagoons. To determine the impacts to the lagoons, the Discharger, at the Regional Board's request, performed a soil and groundwater investigation. The results of the groundwater investigation indicate significant increases in EC, TDS, sodium, chloride, and nitrate concentrations downgradient of the lagoons. Soil borings from the ground surface to the top of the water table confirm the transport of waste constituents from the unlined lagoons into groundwater. A time schedule is necessary to address mitigation of impacts from past discharges, construction of the new ponds, and closure of existing unlined ponds. This is addressed in a separate enforcement order.

DISCHARGE PROHIBITIONS

Discharge [Prohibition A.3](#) prohibits the discharge of waste classified as designated, as defined by CWC section 13173. As the proposed Order finds that the Discharger's brine waste and brine waste combined

with hide skinning wastewater is “designated” (i.e., [Finding 38](#)), the discharge of the brine waste to other than the Facility sumps and above ground tank is prohibited.

DISCHARGE SPECIFICATIONS

Discharge [Specification B.1](#) limits the average daily discharge of hide skinning wastewater to 0.027 mgd. This limit is based upon the RWD technical demonstration that the Facility will have adequate treatment, storage and reuse capabilities to handle this quantity of wastewater once the three lined lagoons are constructed.

The proposed Order prescribes discharge limitations for sodium, chloride and fixed dissolved solids to insure that BMPs for salinity control continue to be implemented and groundwater is adequately protected. Self-monitoring data that exceeds the six-month average and daily maximum discharge limits for sodium, chloride and fixed dissolved solids is indicative of process wastewater that contains waste brine or other wastes not representative of hide skinning wastewater.

The proposed discharge limitations were calculated using self-monitoring data obtained from lagoon influent data. Typically, effluent from pond systems more accurately characterizes a discharge than a composite of influent. This higher level of accuracy is attributable to the fact that effluent from a pond system generally represents a complete mix of the discharge over time. However, in this particular case, the Discharger’s self monitoring data shows that sodium, chloride and TDS levels increase between influent and effluent, over what evaporation losses would cause, suggesting that sodium, chloride and TDS from brine-contaminated soil and sludge are reentering the wastewater held in the lagoons. These observed salinity increases make it impractical to establish reasonable statistically derived discharge limits based on the Discharger’s current self-monitoring effluent data.

Six-month average discharge limits were calculated to be 180 mg/L for sodium, 140 mg/L for chloride and 700 mg/L for fixed dissolved solids using a one-sided confidence interval at the 99% confidence level. A six-month average concentration exceeding this limit would indicate hide skinning wastewater not characteristic of the hide skinning wastewater permitted by this proposed Order. The six-month average limits were calculated statistically from treatment lagoon sodium, chloride and fixed dissolved solids influent data collected between January 2002 and August 2005. During this period the discharge was comprised entirely of hide skinning wastewater as the Discharger had: 1) ceased discharging brine waste, 2) began operating its newly constructed Facility, and 3) began full implementation of BMPs.

The daily maximum concentration discharge limits were calculated as 150% of the six-month average concentration limits and are as follows: 270 mg/L for sodium, 210 mg/L for chloride and 1050 mg/L for fixed dissolved solids. Board staff simulated different maximums against the existing effluent data set collected between January 2002 and August 2005. Professional judgment was used in the simulation process by setting the daily maximum limit to take into account natural variation in data, which led to increasing the maximum limit, and the regulatory demand of decreasing the maximum limit to minimize potential degradation.

An exception to the Basin Plan EC limit is reasonable as a disproportionate increase in the EC of the Discharger's hide skinning wastewater is attributable to organic dissolved solids; the Discharger is implementing Best Management Practices; and the discharge of hide skinning wastewater as proposed by the Discharger will not result in the loss of beneficial uses of groundwater. A mass balance was used to evaluate the impact from average sodium, chloride, and FDS at the six-month average limits in hide skinning wastewater on the quality of the irrigation water applied to 124-acres of double-cropped farmland. The table below shows the calculated difference in the quality of the irrigation water with and without the reuse of hide skinning wastewater.

<u>Parameter / Constituents</u>	<u>Units</u>	<u>Chloride</u>	<u>Sodium</u>	<u>FDS</u>
Irrigation Water – No Hide Skinning Wastewater	mg/L	21	51	196
Irrigation Water – With Hide Skinning Wastewater	mg/L	25	54	210

The proposed Order contains no groundwater limits or groundwater monitoring of the 124-acre land application area. Results of mass balance calculations in the table above indicate that blending of irrigation water with hide skinning wastewater does not result in reasonable potential for the combined discharge to exceed water quality criteria or objectives. Further, it shows that the quality of the irrigation water mixed with the hide skinning wastewater is virtually indistinguishable from the irrigation water alone and thus any groundwater degradation from the discharge would be virtually identical to that caused by surrounding farming practices (i.e., land use), which is reflected to some degree in background water quality.

[Specification B.3](#) requires that the Discharger's 124-acre land application area be double cropped and irrigated at a sufficient rate to meet crop demand. This specification is intended to insure that the hydraulic loading assumption used in the above mass balance is maintained and that the Discharger is using the hide skinning wastewater as irrigation reuse water. To crop on a year-round basis (i.e., to double crop), the Discharger will have to use, along with hide skinning wastewater, canal water from the LIWD, and groundwater from onsite wells: Ag Well No. 1 and Ag Well No. 3.

GROUNDWATER SPECIFICATIONS

[Task 3](#) of the separately issued enforcement order requires the Discharger to submit a technical report that evaluates alternatives for cleanup and abatement and proposes groundwater concentration limits. Pursuant to Title 27, section 20400(b), the Regional Board will review the proposed concentration limits and approve, modify, or disapprove each proposed limit. Upon final approval, the proposed Order will be reopened and concentration limits specified in the Groundwater Specifications ([Finding 61](#)).

[Specification C.1](#) states that releases of waste constituents from the composite liner of the three lined lagoons shall not cause groundwater degradation more than approved by the Regional Board pursuant to Title 27, section 20400(b). Compliance with [Specification C.1](#) can be achieved by insuring that the new

lined lagoons are designed, constructed, operated, and maintained in a manner that minimizes leakage to the extent that incidental leakage that does occur will not be of sufficient magnitude to be detectable in groundwater.

SLUDGE AND GRIT SPECIFICATIONS

Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq., (hereafter Title 27) contains regulations for the prevention of pollution and unacceptable degradation of water quality as the result of discharges to land. Sludge and Grit [Specification D.1](#) requires that sludge and grit be disposed of in a manner approved by the Executive Officer and consistent with Title 27, whether or not disposal takes place at the Facility or offsite. [Specification D.2](#) requires that sludge from the lagoons be disposed of off site, at an appropriately permitted facility. [Specification D.3](#) requires the Discharger to notify the Executive Officer at least 30 days in advance of any change in the disposal of sludge and grit to insure that the Executive Officer has adequate time to evaluate the change.

Section 20090(f) of Title 27 allows the Regional Board when issuing waste discharge requirements to exempt discharges to land from Title 27 when they consist only of nonhazardous, decomposable waste constituents applied as a soil amendment pursuant to best management practices. This requires that the waste constituents utilized by plants not be applied at rates in excess of plant needs such that they leach below the root zone, that decomposable constituents enrich and be bound by soils, and that no constituents cause groundwater degradation.

[Prohibition A.2](#) and Grit [Specifications D.3](#) and [D.4](#) implement the exemption allowed by Section 20090(f). [Prohibition A.2](#) prohibits the discharge of waste constituents in hazardous concentrations. [Specification D.3](#) requires that the discharge be managed and controlled in accordance with written BMPs to preclude over-application. [Specification D.4](#) requires that waste constituents in the discharge be utilized by the soil and benefit crops grown from the soil and not contain waste constituents or other waste constituent in concentration that will degrade groundwater.

PROVISIONS

The written site-specific Sampling and Analysis Plan required by [Provision E.6](#) is needed to establish consistent sampling procedures to be used to comply with this Order's Monitoring and Reporting Program (MRP). The plan will allow review of proposed monitoring procedures and help insure that sample results are representative of site conditions and the media being sampled. Further, it will formally establish who is responsible for what monitoring and reporting functions using the Training and Responsibility log that is required under this Provision.

[Provision E.7](#) of the proposed Order requires the submission of a waste characterization and a waste management plan prior to the discharge of either sludge or grit onsite. To protect groundwater from degradation, the Discharger must provide a method of removing liquids from the grit prior to land application. The waste management plan must demonstrate that the waste constituents in the subject waste once land applied will be consumed as a benefit in soil or by crops and that no waste constituent will be discharged in a concentration that could degrade underlying groundwater. It also requires that

the Discharger propose BMPs to limit potential impacts to water quality. In the context of this Order, BMPs refer to the set of methods, measures, and practices employed to limit potential impacts to water quality. BMPs are typically site specific and change with time as new standards and information from industry-specific studies and practices become available.

MONITORING REQUIREMENTS

Section 13267 of the CWC authorizes the Regional Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the state. Section 13268 of the CWC authorizes assessment of civil administrative liability where appropriate.

This Order prescribes monitoring of lagoon influent, lagoon, discharge monitoring, brine waste monitoring, and water supply monitoring. Influent monitoring is to determine the quantity of hide skinning wastewater discharged to the lagoons on a daily basis. Lagoon monitoring measures freeboard to track whether the lagoons have sufficient freeboard. Monitoring of the mineral and organic character of the discharge is necessary on an ongoing basis to determine: 1) the basic water quality characteristics of the discharge, 2) if the Discharger is complying with discharge limits for sodium, chloride, and FDS; and 3) if there is a material change in the discharge. Brine waste monitoring is necessary to confirm that the brine waste is being properly disposed of as a designated waste.

The proposed Order requires monitoring of groundwater using monitoring wells to be installed around the new lined lagoons. The purpose of these monitoring wells is to verify that the newly constructed lined lagoons do not leak, even if other safeguards fail. The proposed Order also requires monitoring of the Facility's supply well water for mineral character of the supply water. However, the proposed Order has no groundwater limits and requires no groundwater monitoring of the 124-acre land application area. Continued monitoring of the Facility's existing six well network designed to determine the impact on first encountered groundwater of hide skinning wastewater and brine waste leaching into groundwater from the three unlined lagoons is proposed as part of a separate enforcement order.

CEQA

The Kings County Planning Commission approved a Negative Declaration and Conditional Use Permit (CUP) No. 00-05 on 10 July 2000 to upgrade the Discharger's skinning and hide curing facility by constructing a 13,000 square foot building. The six item Hydrology and Water Quality checklist in the Initial Study finds potentially significant impacts from item "a) Violate any water quality standards or waste discharge requirements" and item "f) Otherwise substantially degrade water quality" and no significant impacts from the other items. The checklist summary acknowledges that the proposed upgrade would result in an increase in flow. Rather than proposing direct mitigation measures, Condition 35.A of Kings County Planning Commission Resolution No. 00-14 approving the Negative Declaration and CUP requires that the Discharger submit an amended RWD 120 days prior to any change in the volume of its discharge to the Regional Board. The Planning Commission thus relied on the Regional Board to mitigate the two identified potentially significant impacts. The proposed Order, and associated enforcement, are sufficient to insure that the two potentially significant impacts are mitigated.